Southern States Energy Board
Transportation Planning Guide for the U.S. Department of Energy's Shipments of Transuranic Waste

January 2009

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Date Last Revised:

SOUTHERN STATES ENERGY BOARD

The Southern States Energy Board (SSEB) is a public nonprofit interstate compact that serves as the regional representative on energy and environmental matters for 16 southern states, the commonwealth of Puerto Rico and the U.S. Virgin Islands. The Board was founded in 1960, and since has been ratified by the legislatures of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, the U.S. Virgin Islands, Virginia, and West Virginia. Legislation acknowledging this compact was passed by Congress in 1962. Each member state, commonwealth or territory is represented on the Board by three members: the governor and a legislator from both the state House and Senate. A federal representative is appointed by the President of the United States.

Originally chartered as the Southern Interstate Nuclear Board, the Board formally expanded its role in 1977 at the direction of the southern governors and legislators. Now, SSEB operates with a broad mandate to contribute to the economic growth in the southern region through innovations in energy and environmental quality programs. SSEB provides research, technical assistance and technology development to state officials, industry, and the general public.

BACKGROUND

This guide was developed through a cooperative agreement between Southern States Energy Board (SSEB) and the U.S. Department of Energy (DOE) Carlsbad Field Office.[1] As part of the cooperative agreement effort, SSEB sponsors the Transuranic Waste Transportation Working Group. This group was formed in 1990 to provide DOE with a regional perspective on the transportation of transuranic wastes from various DOE sites to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. The Transuranic Waste Transportation Working Group is comprised of gubernatorial appointees from the following fourteen SSEB member states: Alabama, Arkansas, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Additionally, non-Working Group states may participate because of their connection to the transuranic waste transportation corridor in the southern region.

[1] DE-FC04-93AL82966

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ACRONYMS

CBFO	Carlsbad Field Office
CFR	Code of Federal Regulations
CH-TRU	Contact Handled Transuranic Waste
CMR	Central Monitoring Room
CVSA	Commercial Vehicle Safety Alliance
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EMAC	Emergency Management Assistance Compact
FEIS	Final Environmental Impact Statement
HRCQ	Highway Route Controlled Quantities
LWA	Land Withdrawal Act
NRC	U.S. Nuclear Regulatory Commission
RAP	Radiological Assistance Plan
RH-TRU	Remote Handled Transuranic Waste
SEIS	Supplemental Environmental Impact Statement
SMRAP	Southern Mutual Radiation Assistance Plan
SSEB	Southern States Energy Board
STEP	State and Tribal Education Program
TRANSAX	Transportation Accident Exercise
TCC	TRANSCOM Control Center
TRANSCOM	Transportation Tracking and Communications System
TRU	Transuranic
TRUPACT-II	Transuranic Packaging Transporter
WGA	Western Governors' Association
WIPP	Waste Isolation Pilot Plant
WIPPTREX	WIPP Transportation Exercise

PURPOSE

The Southern States Energy Board (SSEB) ***Transportation Planning Guide for the U.S. Department of Energy's Shipments of Transuranic Waste*** will serve to facilitate and expedite the transportation planning process as outlined in the U.S. Department of Energy's (DOE) ***Program Manager's Guide to Transportation Planning***. Pursuant to DOE Order 460.2, DOE transportation program managers are required to follow the ***Program Manager's Guide to Transportation Planning*** for shipments of hazardous materials.

According to the ***Program Manager's Guide***, the planning process may include the development of a written transportation plan "when deemed appropriate by the program manager." The ***Program Manager's Guide*** recommends that managers seek stakeholder involvement in the planning process. These stakeholders include "federal, state, tribal, and local governmental officials with regulatory enforcement or public safety responsibilities." Additionally, "public information officers, the media, and educational groups...environmental, public interest, and other leaders may need to be considered for participation at various states of the transportation process."

The ***Program Manager's Guide*** recommends that a transportation plan include components that address transportation operations, emergency management, stakeholder involvement, and communications for program implementation. The plan also should contain information on organizational responsibilities, carrier responsibilities, shipment schedules (except for safeguarded materials), route maps, emergency plans and contacts, communication strategies, package recovery plans and packaging information, and any above-regulatory agreements that will be followed over the course of the shipping campaign.

The SSEB ***Transportation Planning Guide*** will serve to document the regulatory and above-regulatory actions that are applicable to DOE shipments of transuranic waste in the southern region. It represents the policies and procedures that were agreed to by the eleven southern corridor states and DOE through a Memorandum of Agreement signed in 1997.[2] This guide will be updated periodically to reflect changes in personnel, addresses, phone numbers, etc. Over time, some of the recommended policies and procedures may change as events warrant. SSEB anticipates that the policies, procedures and points of contacts outlined in the *Transportation Planning Guide* would serve as a basis for DOE's WIPP *Transportation Plan*.

[2] Maryland, Virginia, and West Virginia were added in 2002.

The Carlsbad Field Office (CBFO) published the first *WIPP Transportation Plan* in November 1998. CBFO undertakes a process to continually revise and update future editions.

OVERVIEW

According to DOE's proposed plans for the Waste Isolation Pilot Plant (WIPP), DOE will transport an estimated 37,000 shipments of contact handled (29,766) and remote handled (7,957) transuranic waste to the WIPP site over its projected 35-year life span.[3] This waste will originate at 24 sites in 15 different states. Shipments to WIPP from western defense facilities began in March 1999. The first shipment destined for WIPP from the Savannah River Site in South Carolina departed on May 8, 2001. Approximately 4,000 shipments are expected to come from the eastern sites during the life of the program.

SUBJECT AREAS

States in the southern region have adopted the approach outlined below for DOE shipments of transuranic waste.

PRE-SHIPMENT

Section 1: Transportation Planning

The U.S. Department of Energy Carlsbad Field Office (DOE-CBFO) developed a Transportation Plan for transuranic waste shipments to the Waste Isolation Pilot Plant. The Southern States Energy Board (SSEB) will continue to coordinate the transportation plan review process through the Transuranic Waste Transportation Working Group contacts listed in Appendix A.

Section 2: Carrier and Driver Safety Compliance

The U.S. Department of Transportation (DOT) Federal Motor Carrier Safety Administration has the mission of enforcing the Motor Carrier Safety Act of 1984 and its enacted regulations contained in 49 C.F.R. Parts 350-399. These regulations set minimum safety standards for commercial motor vehicles and drivers.

For the WIPP program, DOE agreed to abide by the driver and carrier safety requirements as outlined in the Western Governors' Association (WGA) document

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[3] *Waste Isolation Pilot Plant Disposal Phase Draft Supplemental Environmental Impact Statement. DOE/EIS-0026-S-2. November 1996.*

entitled ***Model Safety Elements in the WIPP Transportation Contract and Corresponding Carrier Management Plan***.

SSEB will participate in carrier selection to ensure all regions are properly represented in the selection process (i.e., through solicitation review and the evaluation of responses), the development of contract requirements, and development and revision of the carriers' transportation management plan.

The states will participate in a Compliance Audit Program to monitor and verify compliance by DOE, its transportation carrier and drivers with all applicable laws and regulations.

Section 3: Routing of DOE Shipments of Transuranic Waste

As required in 49 C.F.R. §397.101(b), a motor carrier must use "preferred routes" when transporting Highway Route Controlled Quantities (HRCQ). Preferred routes are defined as an Interstate System highway (which includes Interstate bypasses or Interstate beltways around a city) and/or a state-designated route selected by a state routing agency pursuant to §397.103. A listing of state routing agencies is provided in Appendix B.

Although not every WIPP shipment will be a HRCQ shipment, DOE has stated that, as a matter of policy, all WIPP shipments will be subject to this DOT routing requirement unless DOE and an affected state have negotiated for the use of an alternate route that has not been formally designated under USDOT regulations. The identification of specific routes limits the number of affected jurisdictions and allows states to focus on preparation and training.

The U.S. Department of Transportation (USDOT) designation process entails the performance of a comparative route analysis following DOT's *Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive* Materials (DOT/RSPA/HMS/92-02, August 1992) or an equivalent routing analysis that adequately considers overall risk to the public. In assessing the primary route comparison factors under this approach, basic data are compiled on accident rates, traffic counts, highway segment lengths, vehicle speeds, population distribution, land use, timeliness and availability of emergency response capabilities, and other relevant factors for each alternative route. Upon completion of the data compilation and verification process, the information is processed and used to compare alternative routes.

Upon completion of the preferred route designation or negotiation process, states must either file their routing designations with the DOT's Federal Motor Carrier Safety Administration (FMCSA) or advise DOE of their concurrence with negotiated routes. Coordination with local government authorities along prospective routes of travel and

with adjacent states is required to obtain relevant information and to ensure continuity of designated or negotiated routes, should an alternative route be selected. Preferred routes become effective when a state receives formal acknowledgment from FMCSA or upon notifying DOE that a negotiated route has been agreed to. In the southern region, six states have designated alternate preferred routes that are on file with DOT: Alabama, Arkansas, Kentucky, Tennessee, Texas and Virginia. Refer to Appendix C for a listing of alternate preferred routes in these states.

Refer to the map and shipment route detail listed in Appendix D for the current routing system.

Section 4: Emergency Response Plans & Procedures

DOE should coordinate with states on emergency response plans and procedures as part of the transportation planning process. Each state's emergency response plan and procedures have provisions for response to a radioactive materials transportation incident. A listing of state emergency response plans is provided in Appendix E. Refer to Appendix F for 24-hour emergency phone numbers.

In the event of an incident or accident involving radiological materials, DOE will respond, if requested, with a regional radiological assistance program (RAP) team. DOE will follow the guidelines outlined in the document entitled ***Emergency Planning, Response, and Recovery Roles and Responsibilities for TRU-Waste Transportation Accidents*** *(U.S. Department of Energy, January 1995)*

Section 5: Emergency Response Equipment

States and local governments are responsible for equipping their respective responders with the appropriate equipment for responding to a radioactive materials transportation incident or accident. The WIPP Land Withdrawal Act requires DOE to "enter into agreements to assist States through monetary grants or contributions in kind, to the extent provided in appropriation Acts, in acquiring equipment for response to an incident involving transuranic waste transported to or from WIPP." Several states in the southern region receive funding from the U.S. Department of Energy through cooperative agreements with SSEB.

Section 6: Medical Preparedness

DOE will provide technical and financial assistance to states for medical training.

Section 7: Training / Financial Assistance

DOE is required by the WIPP Land Withdrawal Act (LWA) to "provide technical assistance and funds for the purpose of training public safety officials, and other emergency responders as described in part 1910.120 of title 29, Code of Federal Regulations, in any state or Indian tribe through whose jurisdiction the Secretary plans to transport transuranic waste to or from WIPP."

Prior to the commencement of shipments, each affected state submitted a work plan to SSEB for technical and financial assistance. These state work plans were funded through SSEB's cooperative agreement with the DOE Carlsbad Field Office and contingent upon Congressional appropriations.

DOE developed several radiological emergency response training courses that are available to responders through the States and Tribal Education Program (STEP). Six courses are offered in the Occupational Health and Safety Administration-certified curriculum: First Responder Training, First Responder Refresher, Command and Control, Incident Command System, Train-the-Trainer, and Medical Management. The STEP courses are available upon request of the states. DOE may support full-scale transportation exercises, such as WIPPTREX, if funding is available.

The SSEB Transuranic Waste Transportation Working Group will provide input on additional course development and the direction of the training program to ensure that the needs of the target audience are addressed.

Section 8: Advance Notification of Shipments

Section 16(b) of the Waste Isolation Pilot Plant Land Withdrawal Act requires that DOE "provide advance notification to States and Indian tribes through whose jurisdiction the Secretary plans to transport transuranic waste to or from WIPP."

The Carlsbad Field Office (CBFO) will provide an annual written shipping schedule to the governors of participating states and/or their designees no later than January 31 of each year. The governors' designees are listed in Appendix A. Copies of this communication also will be provided to the Southern States Energy Board and the state representatives of their Transuranic Waste Transportation Working Group.

The annual schedule, reflecting a full one-year projection of WIPP shipments, shall be updated no later by July 31 of each year. The annual schedule will include month and year of shipment, point of origin, average number of shipments per month from each point-of-origin, type of isotope and classification of transuranic waste.

Advance notification for individual shipments will be made in an 8-week Rolling Schedule. This schedule will be distributed via email and will be updated as appropriate.

Advance notification of shipments also will be provided via the TRANSCOM satellite tracking system. Through TRANSCOM, state and tribal representatives may access the following data: (1) advance notification information; (2) the bill of lading; (3) the U.S. Department of Transportation (DOT) Emergency Response Guidebook information; (4) the shipment's route; (5) points of contact for information; (6) message traffic; and (7) en route shipment location on U.S., state, and county maps.

Section 9: Fees and Permits

Some states require fees and permits for WIPP shipments. Please see Appendix G for a listing of state fees and permits.

SHIPMENT EN ROUTE

Section 10: Vehicle Inspections

States will require DOE contract carriers for the WIPP program to comply with the Commercial Vehicle Safety Alliance (CVSA) Enhanced North American Standard Inspection Procedures and Out-of-Service Criteria. States may inspect these shipments at the points of origin and destination in accordance with the CVSA enhanced inspection procedures. Corridor states reserve the right to inspect to the CVSA enhanced inspection criteria.

State inspection officers must be equipped with radiation detection instruments to complete the radiological portion of the CVSA enhanced inspection. DOE will provide financial assistance to ensure that state inspection officers are equipped with radiation detection instruments to complete the radiological portion of the CVSA enhanced inspection.

Refer to Appendix H for a listing of state and tribal inspection requirements, responsible agencies and inspection station locations.

Section 11: Weather and Road Conditions

DOE, its carriers and the states will follow the procedures outlined in the document entitled ***Procedures and Protocols for Bad Weather and Road Conditions for WIPP Shipments*** (Western Governors' Association, Revision 7, February 2004). Before dispatch, the shipper and both vehicle drivers must agree that travel conditions are acceptable for a WIPP shipment. If not, the vehicle may not be dispatched until conditions improve. Refer to Appendix H for state road and travel information services.

States should monitor the status of WIPP shipments using TRANSCOM when adverse weather and road conditions are occurring. States will notify DOE that a shipment should not be dispatched or that a shipment should be diverted to a safe parking location to avoid bad weather or adverse road conditions. DOE and each state must develop standardized procedures to carry out these policies.

Section 12: Safe Parking During Abnormal Conditions

Under a contract with Western Governors' Association, the Western Interstate Energy Board (WIEB) developed criteria for safe parking areas for WIPP shipments. DOE has agreed to carry out these criteria. A hierarchy has been developed to incorporate two factors: 1) the *desirability* of a particular type of parking area; and 2) the driver's *ability* to reach that parking area.

1st Choice: Department of Defense (DOD) & DOE facilities are the most desirable parking areas for WIPP shipments. However, it may not be possible for the driver to safely reach a DOD or DOE facility. The driver should then proceed down the hierarchy to select a parking area.

2nd Choice: Specific types of facilities (*e.g.* Ports of Entry) are likely to be more common than DOD or DOE facilities. State-specific information on the types of facilities that are acceptable has been identified. If the driver cannot reach one of these facilities, the driver should use the *3rd Choice* criteria.

3rd Choice: If facilities listed in the first or second tier cannot be reached safely, a series of avoidance factors are applied to select a parking area. No priorities have been assigned to these factors. It may not be possible to select a parking site that meets all of the criteria listed in the third tier. Compromises may be necessary.

As part of the transportation planning process, DOE and the states will coordinate on safe parking areas for DOE shipments of transuranic waste. State specific data regarding safe parking areas in the southern region can be found in Appendix G.

Section 13: TRANSCOM / Satellite Tracking

The Transportation Tracking and Communications System (TRANSCOM) will be used to monitor WIPP shipments. Each state will have access to the TRANSCOM satellite tracking system, which will allow them to monitor shipments when appropriate. DOE will provide financial assistance to states through their cooperative agreements with SSEB for training and access to TRANSCOM during ongoing shipping campaigns. Refer to Appendix H for a state by state listing of TRANSCOM users.

If any incidents occur, the state designated point of contact will provide notification to the designated facility (WIPP) through the Central Monitoring Room (CMR). The CMR will provide notification to the TRANSCOM Control Center (TCC) and the carrier.

The driver will provide notification through TRANSCOM of generator/storage site departure, all vehicle stops en route (scheduled and unscheduled), and safe arrival at the WIPP.

TRANSCOM backup will be provided by driver reports to the CMR using either satellite or cellular telephones.

The CBFO will post on the TRANSCOM system updated, revised information, as it is available on a particular shipment.

Section 14: Security

Security escorts will not be used for WIPP shipments.

GENERAL

Section 15: Packaging

Although the NRC does not generally have regulatory oversight of DOE nuclear materials, the 1980 WIPP Final Environmental Impact Statement (FEIS) mandated that DOE comply with applicable NRC regulations in designing WIPP storage and transportation guidelines. Under this mandate, DOE has agreed to gain NRC certification for all transuranic waste transportation containers or casks. The NRC certification requirement was reaffirmed by the WIPP Land Withdrawal Act Section 16(a). DOE will use NRC certified packages to transport transuranic waste to WIPP.

Section 16: Mutual Aid Agreements

SSEB will maintain the ***Southern Mutual Radiation Assistance Plan (SMRAP),*** a mechanism for coordinating radiological emergency assistance capabilities among participating states. The following fourteen states are signatories to this agreement: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia. Adjacent states are eligible to join.

Additionally, the Emergency Management Assistance Compact (EMAC) is a nationwide agreement to address all natural and man-made disaster. Fifty states, the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands have enacted legislation to become EMAC members.

Section 17: Public Information

States will be responsible for developing their own public information programs regarding radioactive materials transportation. DOE will provide technical information regarding its shipments to the states. Questions regarding radioactive materials shipments should be directed to the appropriate state public information officer. A listing of state public information officers is provided in Appendix J.

Section 18: Program Evaluation

States will review the lessons learned from DOE shipping campaigns and make any necessary adjustments to the current policies and procedures, as appropriate.

APPENDICES

Appendix A: Southern States Energy Board Transuranic Waste Transportation Working Group

Appendix B: State Routing Contacts

Appendix C: DOT Filings for State Alternative Route Designations

Appendix D: Shipping Route Map and Transportation Route Detail

Appendix E: State Emergency Response Plans By Title and Contact

Appendix F: State 24 Hour Emergency Phone Numbers

Appendix G: State Fee and Permit Requirements

Appendix H: State and Tribal Inspection Requirements, Responsible Agencies, and Station Locations
Safe Parking Criteria
Road and Travel Information Services

Appendix I: TRANSCOM Users

Appendix J: State Public Information Contacts

REFERENCES

CAST Transportation Management Plan, June 22, 1995

Emergency Planning, Response, and Recovery Roles and Responsibilities for TRU-Waste Transportation Accidents, U.S. DOE, January 1995 (DOE/CAO-94-1039)

Guidelines for Selecting Preferred Highway Routes for Highway Route Controlled Quantity Shipments of Radioactive Materials (DOT/RSPA/HMS/92-02, August 1992)

Incident / Accident Response Team Guide, September 1994 (DOE/CAO-94-1008)

Interagency Agreement Between DOE and DOD for the Temporary Parking of Transuranic Waste Shipments at Military Installations

Memorandum on the Use of DOE and DOD Facilities as Safe Parking Areas

Model Safety Elements in the WIPP Transportation Contract and Corresponding Carrier Management Plan, Western Governors' Association.

REAC/TS: Listing of Trained Personnel

Recovery Guide for Packaging, January 1995 (DOE/CAO-94-1007)

Safe Parking Areas for WIPP Shipments (Western Governors' Association, February 2008.

Southern Mutual Radiation Assistance Plan, Southern States Energy Board, December 2008.

U.S. Department of Energy Order 460.2, Departmental Materials Transportation and Packaging Management

Waste Isolation Pilot Plant Disposal Phase Draft Supplemental Environmental Impact Statement History and future of WIPP program.

Western Governors' Association Model Mutual Aid Agreement for Accidents Involving Hazardous Materials and Radioactive Materials

Western Governors' Association Waste Isolation Pilot Plant Transportation Safety Program Implementation Guide